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DETECTION REPORT

Aerial Detection Survey - Allegheny National Forest

by

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INTRODUCTION

In June 1966, the Allegheny National Forest which encompasses 740,000 acres of land, was flown to determine infestation boundaries and severity of defoliation caused by the fall cankerworm (Alsophila pometaria (Harris)) and other associated species.

This outbreak was of such major concern that in 1965 approximately 100,000 acres of forest land, east of the Allegheny National Forest, was sprayed with 1/2 lb. DDT per/acre to protect the valuable timber. On May 24, 1966, the Twin Lakes and Kiasutha recreation areas were sprayed with carbaryl (Sevin) at 1/2 lb./acre to minimize defoliation and make the area appealing to its users.

The aerial detection survey coupled with ground checking was carried out by personnel from the Central Insect and Disease Control Zone and the Allegheny National Forest.

METHODS

The survey was flown in an Aero-commander aircraft at an altitude of approximately one thousand feet on pre-planned, one-mile interval flight lines. In addition to the pilot and navigator, two observers were used.

The aerial detection was done June 13-15, 1966 and subsequent ground checks were made on June 20-24, 1966. The defoliation was classified as light to moderate and moderate to heavy and was delineated on Allegheny forest maps.

1/ Entomologist and Forestry Aid respectively, Central Insect and Disease Control Zone.

2/ Entomologist, Southeast Area S&PF, on detail for the Allegheny aerial detection survey.

RESULTS

As indicated on the attached map, the areas of heavy fall cankerworm defoliation are in the vicinity of Kane and Warren, Pennsylvania. Last year's survey did not show any defoliation in the Warren area, so apparently the outbreak is extending farther northward. The fall cankerworm continues to be one of the primary defoliators on the Allegheny National Forest. Some of its hosts in this area include: black cherry, sugar maple, white ash, beech, oaks and basswood.

The oak leaf tier, Croesia semipurpurana, greatly increased its infested area in 1966. Heavy defoliation was found along the Allegheny River Reservoir and northwest of the National Forest boundary. The defoliation seemed to follow the major drainage patterns and was selective to scarlet oak (Quercus coccinea), black oak (Q. velutina) and northern red oak (Q. rubra). The majority of oak leaf tiers were in the pupal stage when the ground check was made.

The linden looper, Erannis tiliaria, was found in greater abundance this year than in 1965. Although secondary in importance and abundance, it was found in most of the defoliated areas in association with the primary causal insects.

In addition to the above mentioned insects, the green fruitworm (Lithophane antennata), Phigalia titea, and the forest tent caterpillar (Malacosoma disstria) were found in small numbers associated with the primary causal insects. An unidentified leaf roller caused damage to scattered red oak and was found on the southern edge of the Ridgway District. Identification is pending the transformation of pupae to adults.

In an isolated area on the Bradford District, fall cankerworm defoliation and/or ash dieback, was causing some ash mortality. District personnel stated that in a few areas stepped-up logging operations are being made in an effort to salvage the trees before mortality occurs.

There were a number of unidentified parasites observed causing fall cankerworm mortality. Calosoma beetles were numerous

and were observed in most areas of defoliation. These natural control factors did not seem to be effective in controlling the fall cankerworm population.

RECOMMENDATIONS

Aerial evaluation of the oak leaf tier and fall cankerworm should be made in mid-August 1966 to determine if refoliation or tree mortality has occurred. Also, an egg survey should be conducted to determine if these insects can be expected to cause enough damage to warrant suppression in 1967.

The results of the aerial survey should be made available to personnel of the Pennsylvania Department of Forest and Waters to supplement their survey information.

Distribution:

Allegheny National Forest Districts	4
Allegheny National Forest Supervisor's Office	1
Northeastern Area Office, Upper Darby	2
Regional Forester, R-9	1
Pennsylvania Dept. Forest & Waters	1
Southeast Area, FI and DC Zone 1	1
Northeastern & Northwestern FI and DC Zones	2